

1. A one-piece manifold for a reverse osmosis system,
comprising:

a filter configured to receive water from a water port;

a membrane configured to receive filtered water via a
5 first conduit, the membrane configured to send permeate water
to a reverse osmosis tank; and

a flow restrictor configured to receive concentrate water
from the membrane via a second conduit and to pass the
concentrate water to a drain port.

10

2. The manifold of claim 1, further comprising:

a shut-off valve.

3. The manifold of claim 1 wherein the manifold comprises
15 polypropylene material.

4. The manifold of claim 1, wherein the filter is a
sediment filter.

20 5. The manifold of claim 4, further comprising:
a carbon filter

6. The manifold of claim 5, further comprising:

end caps including grooves that control the path of water flow to the filters.

7. The manifold of claim 6, wherein the end caps control
5 the path of water flow from each of the filters and the membrane.

8. The manifold of claim 1, wherein the flow restrictor includes threads that restrict the flow of water.

10

9. A one-piece manifold for a zero-waste reverse osmosis system, comprising:

a filter configured to receive water from a water port;

a membrane configured to receive filtered water via a
15 first conduit, the membrane configured to send permeate water to a reverse osmosis tank; and

a flow restrictor configured to receive concentrate water from the membrane via a second conduit and to pass the concentrate water to a water source port.

20

10. The manifold of claim 9, further comprising:
a shut-off valve modified for zero-waste.

11. The manifold of claim 9 wherein the manifold comprises polypropylene material.

12. The manifold of claim 9, wherein the filter is a
5 sediment filter.

13. The manifold of claim 12, further comprising:
a carbon filter

10 14. The manifold of claim 13, further comprising:
end caps including grooves that control the path of water
flow to the filters.

15 15. The manifold of claim 14, wherein the end caps
control the path of water flow from each of the filters and
the membrane.

16. The manifold of claim 9, wherein the flow restrictor includes threads that restrict the flow of water.

20

17. A flow restrictor defining a restricted flow path for liquid, said flow restrictor comprising:

a housing defining an elongated conduit having a tapering conical wall defining a first screw thread and a water-channel thread extending therealong including generally between a first opening into a distal region of the conduit for
5 receiving a flow of liquid and a second opening into a proximal region of the conduit, and

an axially elongated plug received into said conduit, a surface of said plug opposed to said tapering conical wall defining a second screw thread and a tapering surface, said
10 second screw thread disposed in threaded engagement with said first screw thread defined by said conical wall of said housing,

opposed surface of said water-channel thread and said tapering surface of said plug being disposed in sealing
15 engagement within said conduit and opposite to define a region for liquid flow, said housing with said water-channel thread and said tapering surface of said plug thereby cooperatively defining a generally spiral liquid flow path along said water-channel screw thread and said tapering surface, for flow of
20 liquid generally between said first opening and said second opening for delivery of liquid from the conduit.

18. The flow restrictor of claim 17, wherein said plug is received into said conduit through said second opening.

19. The flow restrictor of claim 17, wherein said plug
5 and said housing are injection molded.

20. The flow-restrictor of claim 19, wherein said plug comprises a first material, said insert comprises a second material, said first material being softer than said second
10 material.

21. The flow restrictor of claim 17, wherein the first screw-thread comprises a pointed protrusion.

15 22. The flow restrictor of claim 21, wherein being disposed in sealing engagement comprises the pointed protrusion penetrating the surface of the tapered surface.

23. The flow restrictor of claim 17, wherein the plug
20 comprises a third screw thread, the second screw thread and the third screw thread are separated by a gap.

24. A flow restrictor defining a restricted flow path for liquid, said flow restrictor comprising:

a housing defining an elongated conduit having a tapering conical wall defining a first screw thread and a water-channel
5 thread extending therealong including generally between a first opening into a distal region of the conduit for receiving a flow of liquid and a second opening into a proximal region of the conduit, and

an axially elongated plug received into said conduit, a
10 surface of said plug opposed to said tapering conical wall defining a second screw thread and a tapering surface, said second screw thread disposed in threaded engagement with said first screw thread defined by said conical wall of said housing,

15 opposed surface of said water-channel thread and said tapering surface of said plug being disposed in sealing engagement within said conduit and opposite to define a region for liquid flow, said housing with said water-channel thread and said tapering surface of said plug thereby cooperatively
20 defining a generally spiral liquid flow path along said water-channel screw thread and said tapering surface, for flow of liquid generally between said first opening and a port defined

by said flow restrictor for delivery of liquid from said conduit.

25. The flow restrictor of claim 17, wherein said plug,
5 at least in part, defines an aperture interconnecting said conduit and said port.

26. The flow restrictor of claim 19, wherein said port is defined, at least in part, by said plug.